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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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HEWLETT-PACKARD COMPANY
Intellectual Property Administration
P.O. Box 272400
Fort Collins, CO 80527-2400

EXAMINER

NGUYEN BA, HOANG VU A

| ART UNIT | PAPER NUMBER |
|----------|--------------|
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2192

DATE MAILED: 05/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/016,955

Applicant(s)

HUNDT ET AL.

Examiner

Hoang-Vu A. Nguyen-Ba

Art Unit

2192

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 January 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-6,8-10 and 12-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-6,8-10 and 12-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 January 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. This action is responsive to Amendment filed January 11, 2005.

Response to Amendments

2. Per Applicants' request, claims 3, 7 and 11 have been canceled; claims 1, 5, 9, 13, 17, 20-21, 26-29 and 36 have been amended. Claims 1-2, 4-6, 8-10 and 12-36 remain pending.
3. The objection to the drawings as being informal is withdrawn in view of Applicants' filing of formal drawings on January 11, 2005. The formal drawings are accepted by the Examiner.
4. The objection to claim 17 is withdrawn in view of Applicants' amendment to this claim to correct a minor informality.
5. The rejection of claims 9, 20, 28 and 36 under 35 U.S.C. § 112, second paragraph as being indefinite is withdrawn in view of Applicants' amendments to these claims to clearly point out and distinctly claim the subject matter which applicants regard as the invention.
6. The provisional obviousness-type double patenting rejection of claims 1-2, 4-6, 8-10 and 12-36 over claims 1-21 of copending application no. 10/016,948 is withdrawn in view of Applicants' filing of a terminal disclaimer in compliance with 37 CFR 1.103(c).

Response to Arguments

7. Applicant's arguments with respect to claims 1-2, 4-6, 8-10 and 12-36 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections – 35 U.S.C. § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1-2, 4-6, 8-10 and 12-36 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,470,493 to Smith et al. (“Smith”).

Claims 1, 5 and 9

Smith discloses at least:

creating a module which includes data related to said dynamically generated code and said corresponding unwind information, said dynamically generated code comprising instrumented code for a function (see at least Figs. 2B & 3 and related discussion in the specification);

providing an application program interface which allows said data to be registered such that dynamic registration of said dynamically generated code and said corresponding unwind information is enabled (see at least Fig. 1, items 17 & 31 and related discussion in the specification);

patching an entry point of said function to an entry point of said instrumented code (see at least Figs. 2A-B, item 21; Fig. 3, item 29; and related discussion in the specification); and

setting an instruction pointer to the beginning of an application program interface invocation code sequence that precedes said entry point of said instrumented code (see at least Figs. 2A-B, item 21; Fig. 3, item 29; and related discussion in the specification).

Claims 13, 21 and 29

Claims 13, 21 and 29 recite the same features of claims 1, 5 and 9 respectively. Therefore, the same rejections are applied. Smith further discloses *coupling an application program interface invocation code sequence to said dynamically generated code such that upon execution of said dynamically generated code, said application program interface invocation code sequence instructs said application program interface to facilitate registration of said data* (see at least Fig. 1, items 17 & 31 and related discussion in the specification).

Claims 2, 6, 10, 14, 22 and 30

Rejections of base claims and intervening claims are incorporated. Smith further discloses *wherein said module stores said data related to said dynamically generated code and said corresponding unwind information in a centralized location* (see at least Fig. 1, items 31 & 33 and related discussion in the specification).

Claims 15, 23, and 31

Rejections of base claims and intervening claims are incorporated. Smith further discloses *wherein said dynamically generated code is comprised of instrumented code* (see at least Figs. 2B & 3 and related discussion in the specification).

Claims 4, 8, 12, 16, 24 and 32

Rejections of base claims and intervening claims are incorporated. Smith does not specifically disclose *wherein said application program interface allows said data to be registered by a dynamic loader*. However, this feature is deemed inherent to Smith since a loader, according to the Microsoft Press Computer Dictionary, Third Edition, is a utility that loads the executable code of a program into memory for execution. On

most microcomputers, the loader is an invisible part of the operating system and is automatically invoked when a program is run. Without this loader the instrumentation of reverse executable program modules of Smith would be inoperative.

Claims 17, 25 and 33

Rejections of base claims 13, 21 and 29 are incorporated. Smith does not specifically disclose *wherein said application program interface invocation code sequence is utilized by second a dynamically generated code*. However, this feature is deemed inherent to the teachings of Smith because in order to preserve exception handling mechanisms and program's intended behavior, the application program interface invocation code sequence should be used whenever an exception is thrown during the execution of the program. Without this feature, the instrumentation of reverse executable program modules of Smith would be inoperative.

Claims 18, 26 and 34

Rejections of base claims are incorporated. Claims 18, 26 and 34 recite the same coupling step of claims 13, 21 and 29 respectively, therefore the same rejection is applied.

Claims 19, 27 and 35

Rejections of base claims 13, 21 and 29 are incorporated. Smith does not specifically disclose *preventing registration of said module for a function called directly or indirectly via said application program interface*. However, this feature is deemed inherent to the teachings of Smith. Without this feature, the instrumentation of reverse executable program modules would be inoperative.

Claims 20, 28 and 36

Rejections of base claims 13, 21 and 29 are incorporated. Smith further discloses *saving and restoring relevant machine context upon entry and exit of said application program interface invocation code sequence* (see at least Fig.3 and related discussion in the specification).

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Hoang-Vu A. Nguyen-Ba whose telephone number is (571) 272-3701. The Examiner can normally be reached on Tuesday-Friday, 7:15 – 17:45.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's Supervisor, Tuan Dam can be reached at (571) 272-3695.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application should be directed to the TC 2100 Group receptionist: 571-272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, reading "Anthony Nguyen-Ba". The signature is fluid and cursive, with a long horizontal stroke at the end.

**ANTONY NGUYEN-BA
PRIMARY EXAMINER**

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May 13, 2005